

WHAT IS CLAIMED IS:

1. A printing control apparatus for controlling a printing device controlled by a plurality of items of control  
5 information, comprising:
  - input means for inputting desired settings as a part of the plurality of items of the control information;
  - storage means for storing predetermined settings of the items beforehand, in which correlation between the items of  
10 the control information are established in advance;
  - selection means for selecting settings of the items which are correlated with the items inputted by said input means from the predetermined settings stored by said storage means; and
  - 15 transmission means for transmitting the settings of the items, selected by said selection means, to the printing device as control information.
2. The apparatus according to claim 1, wherein said selection  
20 means selects the settings of the items which include same setting of an item of the control information inputted by said input means from said storage means.
3. The apparatus according to claim 2, wherein the settings  
25 stored by said storage means include a settable item capable to being set by said input means and a non-settable item

incapable to being set, between which correlation is established.

4. The apparatus according to claim 3, wherein said selection  
5 means selects settings of the non-settable items correlated  
with settable items which are agreed with items input by said  
input means.

5. The apparatus according to claim 1, further comprising  
10 default value storage means for storing predetermined  
setting as a control information, wherein said input means  
inputs values for changing the predetermined settings stored  
by said default value storage means, and said selection means  
selects the settings of the items which are changed by said  
15 input means from said storage means.

6. The apparatus according to claim 5, further comprising  
display means for displaying the items which are stored by  
said default value storage means.

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7. The apparatus according to claims 1, further comprising  
display means for displaying the items which are inputted  
by said input means.

8. The apparatus according to claim 1, wherein said display means displays items of the control information in menu formation in which the items are listed.

5 9. The apparatus according to claim 8, wherein said display means displays the items input by said input means in emphasized fashion.

10 10. The apparatus according to claims 1, further comprising determination means for determining to transmit whether items input by said input means or items stored by said default value storage means.

15 11. The apparatus according to claims 1, wherein said input means includes type of paper as a settable item.

12. The apparatus according to claims 1, wherein said input means includes paper size as a settable item.

20 13. The apparatus according to claims 1, wherein said input means includes printing color as a settable item.

25 14. The apparatus according to claims 1, wherein said input means includes printing quality as a non-settable item.

15. The apparatus according to claims 1, wherein said input means includes absence or presence of smoothing as a non-settable item.

5 16. The apparatus according to claims 1, wherein said input means includes dither method as a settable item.

17. The apparatus according to claims 1, wherein said input means includes entered processing as a settable item.

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18. The apparatus according to claims 1, wherein said input means includes various message information, which is necessary when a user performs printing, as a settable item.

15 19. The apparatus according to claims 1, wherein said input means includes cartridge type as a settable item.

20. A printing control apparatus for controlling a printing device by sending control information, which includes a plurality of items, to the printing device, said apparatus comprising:

setting means for entering a value of an item of the control information;

25 setting acquisition means for acquiring setting status from the printing device;

comparison means for comparing the item set by said setting means and setting status acquired by said setting acquisition means; and

5 display means which, when the result of the comparison by said comparison means is that the value of the set item and the acquired setting status differ, is for displaying this fact.

21. The apparatus according to claim 20, further comprising  
10 selecting means for allowing an operator to select whether printing processing is to be continued in dependence upon the display presented by said display means.

22. The apparatus according to claim 21, wherein in a case  
15 where the operator has selected continuation of printing processing by said selecting means, printing processing is continued, upon setting the status acquired by said setting acquisition means, with regard to each item for which a difference is found as the result of comparison by said  
20 comparison means.

23. A printing control apparatus for controlling a printing device by sending control information, which includes a plurality of items, to the printing device, said apparatus  
25 comprising:

setting means for setting a value of an item of the control information;

setting acquisition means for acquiring setting status from the printing device;

5 comparison means for comparing the item set by said setting means and setting status acquired by said setting acquisition means; and

re-setting means which, when the result of the comparison by said comparison means is that the value of the set item and the acquired setting status differ, is for  
10 setting the status, which has been acquired by said setting acquisition means, with regard to each item for which a difference is found.

15 24. A printing control apparatus connected to a plurality of printing devices for controlling one of these printing devices by sending this printing device control information that includes a plurality of items, said apparatus comprising:

20 setting means for setting a value of an item of the control information;

setting acquisition means for acquiring setting status from the printing device;

comparison means for comparing the item set by said  
25 setting means and setting status acquired by said setting acquisition means; and

re-setting means which, when the result of the comparison by said comparison means is that the value of the set item and the acquired setting status differ, is for shifting control to a different printing device.

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25. A printing control method for controlling a printing device by using stored predetermined settings of a plurality of items of control information in which correlation between the items of the control information are established in

10 advance, comprising:

inputting step of inputting desired settings as a part of the plurality of items of the control information;

selecting step of selecting settings of the items which are correlated with the items inputted in said inputting step  
15 from the predetermined settings; and

transmitting step for transmitting the settings of the items, selected in said selecting step, to the printing device as control information.

20 26. The method according to claim 24, wherein said selecting step selects the settings of the items which include same setting of an item of the control information inputted in said inputting step from the predetermined settings.

25 27. The method according to claim 26, wherein the predetermined settings include a settable item capable to

being set in said inputting step and a non-settable item incapable to being set, between which correlation is established.

5 28. The method according to claim 27, wherein said selecting step selects settings of the non-settable items correlated with settable items which are agreed with items input in said inputting step.

10 29. The method according to claim 25, wherein said inputting step inputs values for changing default settings of the control information stored by default value storage means, and said selecting step selects the settings of the items which are changed in said inputting step from the  
15 predetermined settings.

30. The method according to claim 29, further comprising displaying step of displaying the items which are stored by the default value storage means.

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31. The method according to claims 25, further comprising displaying step of displaying the items which are input in said inputting step.



32. The method according to claim 31, wherein said displaying step displays items of the control information in menu formation in which the items are listed.

5 33. The method according to claim 32, wherein said displaying step displays the items input in said inputting step in emphasized fashion.

34. The method according to claims 25, further comprising  
10 determining step of determining to transmit whether items input in said inputting step or items stored by the default value storage means.

35. The method according to claims 25, wherein said inputting  
15 step includes type of paper as a settable item.

36. The method according to claims 25, wherein said inputting step includes paper size as a settable item.

20 37. The method according to claims 25, wherein said inputting step includes printing color as a settable item.

38. The method according to claims 25, wherein said inputting  
25 step includes printing quality as a non-settable item.

39. The method according to claims 25, wherein said inputting step includes absence or presence of smoothing as a non-settable item.

5 40. The method according to claims 25, wherein said inputting step includes dither method as a settable item.

41. The method according to claims 25, wherein said inputting step includes entered processing as a settable item.

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42. The method according to claims 25, wherein said inputting step includes various message information, which is necessary when a user performs printing, as a settable item.

15 43. The method according to claims 25, wherein said inputting step includes cartridge type as a settable item.

44. A printing control method for controlling a printing device by sending control information, which includes a plurality of items, to the printing device, said method comprising:

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setting step of entering a value of an item of the control information;

setting acquiring step of acquiring setting status from the printing device;

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comparing step of comparing the item set in said setting step and setting status acquired in said setting acquiring step; and

5 displaying step which, when the result of the comparison in said comparing step is that the value of the set item and the acquired setting status differ, is for displaying this fact.

45. The method according to claim 44, further comprising  
10 selecting step for allowing an operator to select whether printing processing is to be continued in dependence upon the display presented in said displaying step.

46. The method according to claim 45, wherein in a case where  
15 the operator has selected continuation of printing processing in said selecting step, printing processing is continued, upon setting the status acquired in said setting acquiring step, with regard to each item for which a difference is found as the result of comparison in said  
20 comparing step.

47. A printing control method for controlling a printing device by sending control information, which includes a plurality of items, to the printing device, said method  
25 comprising:

setting step of setting a value of an item of the control information;

setting acquiring step of acquiring setting status from the printing device;

5 comparing step of comparing the item set in said setting step and setting status acquired in said setting acquiring step; and

re-setting step which, when the result of the comparison in said comparing step is that the value of the set item and the acquired setting status differ, is for setting the status, which has been acquired in said setting acquiring step, with regard to each item for which a difference is found.

15 48. A printing control method for controlling one of a plurality of printing devices by sending this printing device control information that includes a plurality of items, said method comprising:

20 setting step of setting a value of an item of the control information;

setting acquiring step of acquiring setting status from the printing device;

comparing step of comparing the item set by said setting means and setting status acquired by said setting acquisition means; and

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re-setting step which, when the result of the comparison in said comparing step is that the value of the set item and the acquired setting status differ, is for shifting control to a different printing device.

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49. A computer readable memory for storing a program for performing control in a printing control device by sending control information, which includes a plurality of items, to the printing device, comprising:

10       a code of an inputting step of inputting desired settings as a part of the plurality of items of the control information;

          a code of a predetermined settings of a plurality of items of control information in which correlation between  
15 the items of the control information are established in advance;

          a code of a selecting step of selecting settings of the items which are correlated with the items inputted in said inputting step from the predetermined settings; and

20       a code of a transmitting step for transmitting the settings of the items, selected in said selecting step, to the printing device as control information.

50. A computer readable memory for storing a program for  
25 controlling a printing device by sending control

information, which includes a plurality of items, to the printing device, comprising:

a code of an input step of entering a value of each item of the control information;

5 a code of a readout step of reading out link information from link information storage means, wherein in a case where control information has been entered at said input step, an item to be changed in dependence upon the value of an item and the value of this item are stored beforehand as the link  
10 information with regard to predetermined items of the control information;

a code of a setting step of setting a value of a relevant item based upon items and values contained in the link information read out at said readout step; and

15 a code of a latest-value storage step of storing the latest value of the control information set at said input step or at said setting step.

51. A computer readable memory for storing a program for  
20 controlling a printing device by sending control information, which includes a plurality of items, to the printing device, comprising:

a code of a setting step of entering a value of an item of the control information;

25 a code of a setting acquisition step of acquiring setting status from the printing device;

a code of a comparison step of comparing an item set at said setting step and setting status acquired at said setting acquisition state; and

5 a code of a display step which, when the result of the comparison at said comparison step is that the value of the set item and the acquired setting status differ, is a step of displaying this fact.

52. A computer readable memory for storing a program for  
10 controlling a printing device by sending control information, which includes a plurality of items, to the printing device, comprising:

a code of a setting step of entering a value of an item of the control information;

15 a code of a setting acquisition step of acquiring setting status from the printing device;

a code of a comparison step of comparing an item set at said setting step and setting status acquired at said setting acquisition state; and

20 a code of re-setting step which, when the result of the comparison at said comparison step is that the value of the set item and the acquired setting status differ, is for setting the status, which has been acquired at said setting acquisition step, with regard to each item for which a  
25 difference is found.

53. A computer readable memory for storing a program for performing control in a printing control apparatus, which is connected to a plurality of printing devices, for controlling one of these printing devices by sending this  
5 printing device control information that includes a plurality of items, said method comprising:

a code of a setting step of setting a value of an item of the control information;

a code of a setting acquisition step of acquiring  
10 setting status from the printing device;

a code of a comparison step of comparing the item set at said setting step and setting status acquired at said setting acquisition step; and

a code of a re-setting step which, when the result of  
15 the comparison at said comparison step is that the value of the set item and the acquired setting status differ, is for shifting control to a different printing device.

54. A printing control apparatus for controlling a printing  
20 device in which ink tanks of a plurality of types are capable of being installed in interchangeable fashion, said printing device having a counter for each type of ink tank for measuring amount of remaining ink in the tank, said apparatus comprising:



first sensing means for sensing that an ink tank has been installed in said printing device to replace another ink tank;

second sensing means for sensing the type of ink tank  
5 that has been installed as a replacement; and

resetting means for resetting the counter of said printing device in dependence upon the type of the ink tank sensed by said second sensing means.

10 55. The apparatus according to claim 51, further comprising:

judging means which, when said first sensing means has sensed that an ink tank has been replaced, is for judging whether the ink tank before the replacement and the ink tank after the replacement are of the same type; and

15 selecting means for allowing an operator to select whether resetting of the counter is to be performed in a case where the types of the ink tanks before and after the replacement are the same;

the counter being reset by said resetting means in a  
20 case where reset has been selected by said selecting means;

the counter not being reset in a case where said judging means judges that the types of the ink tanks before and after the replacement are not the same or in a case where reset has not been selected by said selecting means.

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56. A printing control method for controlling a printing device in which ink tanks of a plurality of types are capable of being installed in interchangeable fashion, said printing device having a counter for each type of ink tank for  
5 measuring amount of remaining ink in the tank, said apparatus comprising:

a first sensing step of sensing that an ink tank has been installed in said printing device to replace another ink tank;

10 a second sensing step of sensing the type of ink tank that has been installed as the replacement; and

a resetting step of resetting the counter of said printing device in dependence upon the type of the ink tank sensed at said second sensing step.

15 57. The method according to claim 51, further comprising:

a judging step which, when it has been sensed at said first sensing step that an ink tank has been replaced, is a step of judging whether the ink tank before the replacement and the ink tank after the replacement are of the same type;

20 and

a selecting step of allowing an operator to select whether resetting of the counter is to be performed in a case where the types of the ink tanks before and after the replacement are the same;

25 the counter being reset at said resetting step in a case where reset has been selected at said selecting step;

the counter not being reset in a case where it is judged at said judging step that the types of the ink tanks before and after the replacement are not the same or in a case where reset has not been selected at said selecting step.

5 58. A computer readable memory for storing a program for controlling a memory device in which ink tanks of a plurality of types are capable of being installed in interchangeable fashion, said printing device having a counter for each type of ink tank for measuring amount of remaining ink in the tank,  
10 said apparatus comprising:

a code of a first sensing step of sensing that an ink tank has been installed in said printing device to replace another ink tank;

a code of a second sensing step of sensing the type of  
15 ink tank that has been installed as the replacement; and

a code of a resetting step of resetting the counter of said printing device in dependence upon the type of the ink tank sensed at said second sensing step.